



# Continuing Our Commitment

This report is designed to provide you with valuable information about the quality of your drinking water. This edition covers all testing completed from January 1, 2004 through December 31, 2004.

The quality of your

drinking water meets all state and federal requirements administered by the Virginia Department of Health, Office of Drinking Water. The City of Harrisonburg is dedicated to providing you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

If you have questions about this report or want additional information about the quality of your drinking water, please contact our Director of Public Utilities, Michael Collins, at (540) 434-9959. You may see updates of this report on our Web site: www.ci.harrisonburg.va.us.

# Community Participation

We invite public participation in decisions that affect drinking water quality. The public is welcome to attend the city council meetings held at the Municipal Building at 345 South Main Street, Harrisonburg, Virginia, on the second and fourth Tuesday of each month at 7:30 p.m.



# **City Expands Water Treatment Plant**

At the close of 2004, the city was rapidly approaching the refurbishing and expansion of its water treatment plant. Originally placed into service in May 1971, at a price of \$983,350, the facility provided five million gallons per day. With the recent investment of \$4.6 million, the facility now provides 15 million gallons per day.

The water treatment plant has been designed to meet the goals of the Safe Drinking Water Act (SDWA), passed in 1974 and amended in 1986 and 1996. This targets primary standards that protect water quality by using "maximum contaminant levels" for contaminants that adversely affect public health. Also targeted are secondary standards that may cause cosmetic or aesthetic effects.

In addition to providing quality water, the new plant will also provide enough quantity to satisfy the city's projected build-out population. This project will be followed by a water supply project to expand use of pristine waters from the Rawley Springs watershed and to add waters from the South Fork Shenandoah River. Once completed, the projects will provide opportunity for growth while emphasizing quality drinking water, reliability during drought conditions, and environmental stewardship.

#### Source Water Assessment

Utilities, Michael Collins, at (540) 434-9959.

A Source Water Assessment for the City of Harrisonburg was completed by the Virginia
Department of Health on May 24,
2002. This Assessment determined that the city's water sources, North
River and Dry River, are surface waters exposed to a wide array of changing hydrologic, hydraulic, and atmospheric conditions. More specific information may be obtained by contacting the Harrisonburg Director of Public

## Where Does My Water Come From?

The City of Harrisonburg has two reliable water supply sources. The Dry River in Rawley Springs is a surface water source. The watershed is small, yet provides up to four million gallons per day and is the highest quality water at the most cost-effective price. The North River in Bridgewater is also a surface water source and provides up to eight million gallons per day. The water quantity and quality of the North River fluctuates due to runoff conditions at the withdrawal site. Our treatment facility has the capacity to provide 15 million gallons of clean drinking water every day. We are in the process of developing a supply line from the South Fork Shenandoah River; once this project has been completed, we expect to provide a supply of 15 million gallons per day to our customers.



## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

# Drinking Water Notice—Monitoring Deficiency

As our consumers you have a right to know that we have incurred one event during which we have not complied with monitoring requirements. This has occurred during the construction project to expand our water treatment plant.

#### What happened?

The Virginia Waterworks Regulations mandate that we are required to continuously monitor each filter for turbidity in our water treatment process. For a period of approximately two weeks prior to November 3, 2003, the constant monitoring turbidity for Filter 2 became inoperable. In the interim, the operating staff monitored turbidity for Filter 2 by collecting water samples every hour. These samples were analyzed with a bench top turbidimeter in the water treatment plant's lab; the levels of turbidity met required water quality.

#### What has been done?

A new constant monitoring turbidimeter was installed on Filter 2 early in November 2003. All filters have been monitored continuously since that time.

For more information, please contact A. Michael Collins at (540) 434-9959 or 2155 Beery Road, Harrisonburg, Virginia 22801.

# MARKET ANALYSIS OF WATER AND SEWER RATES AMONG WATER SYSTEMS OF 10,000 -30,000 EQUIVALENT CONNECTIONS 5,000 GALLONS WATER AND SEWER CONSUMPTION

UTILITY PROVIDER	EQUIVALENT RESIDENTIAL CONNECTIONS	WATER \$/5000 GAL.	SEWER \$/5000 GAL.	W & S RATE \$ / 5000 GAL
City of Radford	12,292	\$ 10.00	\$ 7.60	\$ 17.60
City of Martinsville	12,000	\$ 10.89	\$ 11.04	\$ 21.93
City of Williamsburg	14,000	\$ 13.00	\$ 9.55	\$ 22.55
James City Service Authority	18,400	\$ 11.50	\$ 13.50	\$ 25.00
City of Harrisonburg	20,560	\$ 11.18	\$ 14.22	\$ 25.40
Spotsylvania County	25,250	\$ 11.89	\$ 15.19	\$ 27.08
City of Danville	28,000	\$ 13.15	\$ 14.50	\$ 27.65
Town of Vienna	10,000	\$ 13.55	\$ 17.85	\$ 31.40
City of Suffolk	21,520	\$ 19.80	\$ 11.90	\$ 31.70
Town of Leesburg	16,297	\$ 14.68	\$ 17.38	\$ 32.06
City of Staunton	16,164	\$ 13.40	\$ 18.89	\$ 32.29
City of Salem	13,791	\$ 15.25	\$ 17.50	\$ 32.75
Stafford County	35,080	\$ 11.63	\$ 21.30	\$ 32.93
Town of Blacksburg	13,007	\$ 16.68	\$ 19.51	\$ 36.19
Bristol Virginia Utilities Board	10,840	\$ 17.22	\$ 19.40	\$ 36.62
City of Winchester	28,970	\$ 18.15	\$ 19.55	\$ 37.70
Abermarle Co Service Auth.	16,915	\$ 19.73	\$ 18.70	\$ 38.43
Fredrick Co. Sanitation Auth.	20,154	\$ 19.63	\$ 23.62	\$ 43.25
Town of Culpeper	11,500	\$ 21.35	\$ 22.05	\$ 43.40
Hanover County	19,200	\$ 13.65	\$ 30.42	\$ 44.07
Pulaski County PSA	13,200	\$ 21.50	\$ 24.00	\$ 45.50
Augusta Co. Service Auth.	13,326	\$ 20.47	\$ 26.37	\$ 46.84
Washington Co. Service Auth.	18,881	\$ 25.40	\$ 39.00	\$ 64.40
Virginia Average	5,000 - 50,000	\$ 16.51	\$ 19.65	\$ 36.16

Courtesy of Draper Aden Associates 2004 Study

Substances That Might Be in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

**Microbial Contaminants,** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

**Inorganic Contaminants,** such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides,** which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants,** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants,** which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

# Sampling Results

We are pleased to report that during the past year, the water delivered to your home or business complied with, or did better than, all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water during 2004. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW HIGH	VIOLATION	TYPICAL SOURCE
Alpha emitters (pCi/L)	2001	15	0	0.7	NA	No	Erosion of natural deposits
Beta/photon emitters (pCi/L) <sup>1</sup>	2001	50	0	1.8	NA	No	Decay of natural and man-made deposits
Combined radium (pCi/L)	2001	5	0	0.7	NA	No	Erosion of natural deposits
Fluoride (ppm)	2004	4	4	1.18	0.69-1.18	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2004	60	NA	25	8-62	No	By-product of drinking water chlorination
Nitrate (ppm)	2004	10	10	1.48	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (ppm)	2004	ТТ	NA	1.0	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2004	80	NA	21	8-38	No	By-product of drinking water chlorination
Turbidity (ppm) <sup>2</sup>	2004	TT	NA	0.34	0.05-0.34	No	Soil runoff

Tap water samples were collected for lead and copper analyses from 32 homes throughout the service area

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH%TILE)	HOMES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm) <sup>3</sup>	2004	1.3	1.3	0.080	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb) <sup>4</sup>	2004	15	0	2	2	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹The MCL for beta/photon emitters is written as 4 mrem/year. The U.S. EPA considers 50 pCi/L as the level of concern for beta emitters.

#### **Table Definitions**

#### AL (Action Level):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

#### MCLG (Maximum Contaminant Level

**Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

NA: Not applicable

ND: Not detected

**NTU** (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

**pCi/L** (**picocuries per liter**): A measure of radioactivity.

**ppb** (parts per billion): One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT** (**Treatment Technique**): A required process intended to reduce the level of a contaminant in drinking water.

<sup>&</sup>lt;sup>2</sup> Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, 100% of all samples taken to measure turbidity met water quality standards.

 $<sup>^{\</sup>scriptscriptstyle 3}$  None of the 32 samples collected exceeded the AL.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791. We only had one of five samples indicate the presence of lead. This is not a violation. (Range: ND to 103 ppb)